1976 ANNUAL INDEX

Breeding and Hatching

Broiler breeder, checking, body weight, 156
  daily protein needs of, hens, 126, 362
  dwarf, hens, 302
  early protein restriction of, chicks, 365
  fiber and, weights, 424
  force molting, hens, 412
  nutrient needs of, 218
  routine, vaccination urged, 246
  three stages in, feeding, 255
"Clean" chicks and poults, how to produce, 198
Dwarf, broiler breeder hens, 302
  layers, large eggs produced by, 58
Fertility, biotin increased, 366
  temperature affects, 82
Floor chicks, don't toss into boxes, 122
Floor eggs, genetics and management in, 470
Foot-pad, biotin for broiler breeder cuts lesions, 504
Gene pool, narrowing, 92
Gentian violet at high levels safe for breeders, 472
Goals, breeding flock and hatchery, 56
Hatchability, biotin increased, 366
  calcium and phosphorus effects on, 129
  continuous type egg washer increases, 421
  virus and poor, 324
Hatching eggs, age of, affects broiler weights, 280
  cleaner, with oyster shells in nests, 248
  fumigate, in salmonella control, 502
  how to care for, 456
  sort out "doubtful," on farm, 118
  sweating favors bacterial growth, 370, 429
  treat nesting to reduce bacteria on, 410
Incubation, chick defects from brief high temperature in, 386
  egg dipping reduces dust in, 214
  egg weight loss in, 169
  staggered hatch from too early light in, 418
Insemination, cage design cuts labor for, 119
Males, partial replacement of, 192
  selecting, for heavy breeders, 20
National Plan changes, proposed, 440
Semen extender could cut breeding costs, 150
Strains, broiler, affected by humidity, 112
Wiry down in chick inherited, 126
Virus could cause more cull chicks, 324

Broiler Production

Ammonia increases disease problems, 453
Arginine needs of broilers, 266
Bone strength unaffected by bird density, 82
Broiler weight, ammonia depresses, gains, 218
  5.8 pounds, at 8 weeks (Kansas), 256
  5.92 pounds at 8 weeks (Colorado), 456
  hatching egg age affects, 280
  intermittent lighting and, 104, 386
  over-restriction can hurt, 172
Bruising early in week, crews do less, 80
Cages, follicle infection still problem in, 39
  fluoridated water for caged broilers, 518
Choline, daily, needs, 341
Contracts, growers satisfied with, 412
  USDA wants better reporting of, 432
Controlled feeding of broilers, 492
Conversion, coffee weed seeds hurt, 302
  fan-ventilated houses improve, 382
  sees further gains in, 287
  77 degree starting temperature and, 78
Corn, treated high moisture, okay for broilers, 341
Costs, energy, 2 cents per Maine broiler, 398
  higher protein level could reduce, 158
  recognize, in each production segment, 232
Dermatitis, foot-pad, in broilers, 365
Electricity, saving, in broiler houses, 17
Feed intake, calculating daily, for 100 broilers, 65
Feed withdrawal, best time for, 218
Feeder lids, replace broken, 32
Feeding efficiency index, new broiler, 236
Fluoridated water for caged broilers, 518
Footpad lesions in broilers, 504
Fuel, balancing heat losses and, use, 76
  small area brooding cuts, use by two-thirds, 122
  solar heat, savings, 421
  tightening house can save a lot, 76
Fish meal, gizzard and intestinal lesions from, 344
Gizzard erosion in broilers, 366
Goals, broiler production, 153
Heat spells, move broilers within pen in, 150
High density system, 3.5 sq. ft. per bird,, 486
Light, intensity and feed efficiency, 365
  intermittent, and weights, 104, 117
  leg problems from continuous, 386
  low, intensity in curtain houses, 22
  practical, pattern for broilers, 450
Litter, feeding broiler, to ruminants, 73
  shredded paper as, 169
PCNB and HCB persistence in broiler fat, 262
Pellet binder effect on performance, 470
Pellet feeds, "fines" in, okay, 36
Price, early 1977, outlook, 432
Solar heat in broiler house, 421
Sound waves may quiet birds for loading, 287
Vaccination, serological profile helps time, 169
Ventilation affects ammonia level, 341
Water intake, calculating daily, of 100 broilers, 65
Water temperature, high, depresses growth, 513
Water trough height, adjust, as chicks grow, 234
Week before processing, management, 71
Windowless housing's advantages and disadvantages, 418
  in winter, in summer, 511
Zeaxanthin effective as pigmenter, 518
Zinc-methionine supplement beneficial, 366

Brooding and Rearing

Ammonia eliminated in brooder-grow cages, 66
Brooders, dirty, cost more to operate, 188
Cage rearing cuts pullet mortality, 404
Debeaking, avoid too severe, in replacement pullets, 112
  change blades more often, 509
  mandatory for started pullets, 80
  six days best age for, 283
Dehydration in newly housed pullets, 125
Energy, ideas for saving, in brooding, 120
Feeder lids, replace broken, 32
Feeder space for chicks, 466
Floor space for chicks, 466
Hover space for chicks, 466
Litter, don't brood on splintery shavings, 298
Pullets, can poor, be good layers? 421
  contracting for replacement, 170
  don't ship, soon after LT vaccination, 202
  effect of protein levels and sources on, 426
  feeding replacements, 510
  move of, to lay house can trigger stresses, 407
  started or stunted? 284
Waterer space for chicks, 466

Ecology and Waste Handling

Disposal, refrigerate dead birds, 498
DPW, cuts ruminant feed costs in Denmark, 74
  McAnally turns out uniform high quality, 194, 307
Fertilizer, enriched, with poultry manure base, 450
FDA to issue waste proposal, 140
Flies, bacterial spray on manure fails to control, 466
  beetles control, but harm insulation, 450
  biological control of, in cage houses, 63
  don't let up on control of, 145
  insect sterilant in paint for control of, 422
Fly bait stations part of integrated control, 242
Gophers, pocket, propane gas effective in control, 466
Hatchery waste, converting, into feedstuffs, 247
  handling 416
Litter, as feed source for beef animals, 116
  feeding broiler, direct to ruminants, 73
  lambs do well on 15% pelleted, 371
  re-use ups value of, as fertilizer and feed, 421
Manure, advises against liquid, system, 231
  avoid complaints when applying, 422
  revegetates spoil banks, 278
  solar drying lowers, moisture quickly, 327
  value of, next to eggs, 74
Residues, Virginia lab monitors for, 524

Eggs

Amino acids, layers may also need nonessential, 416
Antibiotics, eggshell quality aided by, 422
Body size, feed restriction and, 466
  loss greatest after first molt, 119

Just in case you're not one of the many POULTRY DIGEST readers who save (even have bound) every issue to form a continuous library of poultry production technology, the following monthly breakdown of our serial numbering system should be helpful:

January	1— 46	July	271—310
February	47— 88	August	311—350
March	89—134	September	351—392
April	135—180	October	393—434
May	181—224	November	435—478
June	225—270	December	479—530

Cages, chickens in, need special care, 152
location in, affects performance, 344
performance in shallow, 244, 245
Calcium, availability in ground limestone, 472
effect on feed intake, 130
high producing layers need adequate, 260
level influences egg weight, 304
phosphorus ratio affects egg specific gravity, 129
source and size affect shell quality, 304
Check a few birds for condition of large flock, 370
Cholesterol, no less, in fertile eggs, 429
Cooling layers, methods of, 260
Costs, egg processing and cartoning, 390
feed more of total production, 154
fixed, in egg production, 146
limited feeding can reduce, per dozen, 33, 106
longer layer life offsets higher feed, 409
trimming egg production, 336
Cull in late afternoon in litter houses, 248
Culling, walk-through, is profitable, 243
Cycling temperature, no advantage in, for layers, 263
Debeaking, best age for, is 6 days, 283
layers in top tier of three-deck cages, 420
Dehydration, prevent, in newly-housed pullets, 125
Detoeing White Leghorns, 366, 466
less in plastic flats, 511
Dirty eggs, more cracked eggs among, 197
Egg breakage, in production-processing, 474
reducing, in hand gathering, 34
Egg consumption, declining per capita, 498
Egg is model for testing proteins, 474
Egg price outlook first half of 1977, 348
Egg quality, farm location and, 119
unidentified factors in interior, 246
Egg production, age of pullets at caging and, 304
aflatoxin reduces rate of, 130
concentration of, 51
drops 6% after each force molt, 125
fixed costs in, 146
flock goals for, 153
more uniform throughout year, 432
off 6-10% on low protein ration, 34
restricted feeding and, 33, 106, 466
Egg records, hen-housed, are better, 101
Egg size, feed restriction and, 466
larger, from high protein in rearing, 197
too early pullet lighting and, 78
Energy, lower wattage clean bulbs save, 358
saving, in lighting, 326
short light-day saves, 293
Feed, allow cart-fed cage layers to clean up, 150
Feed consumption, measuring, 60, 299
Feed ingredient, composition, know, 438
Feed savings, by restricted feeding, 33, 59, 106
cold weather house operation for, 407, 498
reduce energy to obtain, 380
small, affect returns per hen, 466
2 pounds daily, in warmer house, 118
Feed, wasted, is simply lost income, 157
Feeding, restricted or limited, 33, 59, 106, 107, 466
Floor eggs, genetics and management in, 470
Goals, flock egg production, 153
Ground pine shavings help feed efficiency, 256
Heat losses highest in heavy hens, 58
Lighting, intensity for layers, 40
lower wattage clean bulbs cut, bill, 358
saving energy in, 326
too early pullet, effects of, 78, 407
Light-day, short, saves energy, 293
Limited or restricted feeding, 33, 59, 106, 107, 466
Longer layer life helps offset higher feed costs, 409
Moldy feed, musty odors and off-color may indicate, 63
Molt, bird depreciation affects, decisions, 283
body weight losses greatest after first, 119
drop of 6% in lay after each force, 125
peak in force, activity, 94
revaccinate force, layers, 24
shell quality and, 24
zinc for quick force, 155, 483
Oiling, effect of, on egg shell strength, 344
on-farm, helps hold egg weight longer, 130
Pack jumbos separately, pays extra to gather, 152
Portland cement decreases lay and feed efficiency, 428
Production curve helps pinpoint time of problem, 340
Profits, egg numbers main factor in, 259
nine performance traits affecting layer, 377
small feed savings affect, 466
Protein, higher, in rearing helps egg size, 197
layers, need 19.6 grams of, daily, 282
levels for brown-egg layers, 39
production on 13%, 366
Pullets, rough handling at housing harmful to, 324
Punctures, causes of eggshell, 75
Revaccinate force molted layers, 24
"Rules of thumb" for flock managers, 64
Salt lack, no harm to layers from temporary, 129
Shell damage, where, occurs in production- processing, 474
Shell quality, aflatoxin and, 130, 254
antibiotics aid, 422
force molting and, 24
shell membrane and, 366
source and calcium size effect, 304, 518
unidentified factors in, 246
vanadium helps, 426
vitamin D-3 and,, 518
weaker as hens age, 172
"window" eggs have poorer, 84, 474
Shell strength, effects of oiling and washing on, 344
Shell texture, eggs with rough, are weaker, 84
rub egg on cheek to check, 422
Shell-less eggs, possible cause of, 366
Specific gravity, Ca:P ratios affect egg, 129
Summer feeding of layers, 340
Uncollectable eggs cause heavy loss, 422
Washing effects on eggshell strength, 344
Wasted feed is simply lost income, 157
Water restriction, differs for pullets and hens, 172
schedule for layers, 300
Yolk mottling in washed, unoiled eggs, 518
Zinc for quick recycling of layers, 155, 483

Feeds and Feeding

Amino acids, excess supplementation of, wasteful, 122
layers may also need nonessential, 416
Antibiotics, shell quality aided by, 422
will low level use of, survive? 395
Arginine needs of broilers, 266
Calcium, availability in ground limestone, 472
effect on feed intake, 130
high producing layers need adequate, 260
level influences egg weight, 304
-phosphorus ratio affects egg specific gravity, 129
propionate does not cause feed intake drop, 472
source and size affects shell quality, 304
cereal grains, different for, 518
Choline, daily, needs of broilers, 341
Copper sulfate, safe level of, for layers, 266
Cottonseed meal, cystine loss in ammoniated, 426
new extracting process for, 304
Distillers feed, unidentified egg quality factor in, 344
Feed consumption, know daily and weekly, 299
measuring flock, 60
Feed, hot weather, handling and storage, 202, 324
Feed ingredient composition, know, 438
Feed intake, calcium effect on, 130
color in trough influences, 303
Feed savings, by restricted feeding, 33, 59, 106
cold weather house operation for, 407
reduce energy to obtain, 380
small, affect returns per hen, 466
2 pounds daily, in warmer house, 118
Feeder lids, replace broken, 32
Feeding, refinements must come, 274
restricted or limited, of layers, 33, 59, 106, 107, 646
Gentian violet safe at high levels for breeders, 472
L-methionine activity of hydroxy analogues, 426
Limiting feed intake of layers, 33
Lysine, in blood meal, 472
in poultry offal meal, 129
Leghorn pullets require less, 344
Magnesium, other nutrients affect needs, 174
Marigold meal, loss of xanthophyll in stored, 426
Methionine, biological potency of two sources, 174
deficiency and chick weight gains. 39
zinc-, supplement for broilers, 366
Moldy feed, musty odors and off-color may indicate, 63
Oilseed residues, harmful substances in, 174
Pellet binder effect on performance, 470
Phosphorus, effects of high and low, levels, 84
Portland cement decreases lay and feed efficiency, 428
Protein, cereal grains as, sources, 172, 218
egg production on 13%, 366
forage crops may provide more feed, 176
higher, in rearing helps egg size, 197
layers need 19.6 grams of, daily, 282
levels for brown-egg layers, 39
Rapeseed, effects of, on pullets and layers, 304
Salt lack, no harm to layers from temporary, 129
Selenium, deposits in egg, 40
PCB's increase chick's need for, 42
sources differ in potency, 428
Sesame meal, M. E. value of, 303
Sorghums, nutritive value of hybrid, 128
Soybean meal, extruded soybeans equal, for layers, 202
M. E. values for, 303
testing of, reduces protein variation, 454
Trace minerals, safe levels of, 461
Trouble shooting layer feeding problems, 28
Vanadium, shell thickness helped by addition of, 426
Vitamin deficiencies in chickens and turkeys, 142
Vitamin D, PCB's increase chick's need for, 42
re-evaluate, in rations, 202
Vitamin D3 and shell quality, 518
Wastage, equipment leaks causing feed, 63
Xanthophyll loss in stored marigold meal, 426
Yeasts from hydrocarbon feedstocks, value of, 129
Zinc used for quick recycling of layers, 155
Zinc-methionine supplement for broilers, 366, 483

Housing and Equipment

Air inlets reduce stagnant pockets, 376
Air space around house, don't restrict, 145
Broiler houses, windowless, 418
Broiler system, 3.5 sq. ft. per bird, 486
Cages, floor system vs., 366
shallow or reverse, 244, 345
upstairs-downstairs, 152
Construction errors, poultry house, 509
Cooling, evaporative, works in some humid areas, 117
fogger, systems linked in case pump fails, 338
layer houses, 260
reflective roof paint aids, 420
service evaporative, systems, 202, 320
Electricity, saving, in broiler houses, 17
Fail-out doors prevent suffocation, 445
Fans, dust can reduce air output of, 112
may be calling for more air, 340
some, use more current, 171
Feed bins, number, to avoid delivery mistakes, 294
plastic, reinforced with fiber glass, 294
Feeder lids, replace broken, 32
Feeder, mineral separation in mechanical, 365
Floor system, 20 more eggs from, 366
Generator, exercise standby, 76
Heat losses highest in older houses, 58
High-rise housing, basic construction of, 318
Humidity control, time-proportioning, 512
Insulation, beetles damage, 450
install, right to obtain full benefit, 334
reduces mortality from heat, 156, 263
R-value cut by moisture entry, 420
turkey pole barn, 26
Light bulbs cleaned with feather duster, 420
Light lamps, three types compared, 118
Solar heating of poultry houses, 51, 432
Temperature control, time-proportioning, 512
Thermostats, locating, in broiler house, 66

Turkey housing, environmentally modified, 416
Turkey pole barns, insulating, 26
Ventilation, ammonia level and, 341
fan, improves broiler conversions, 382
use static pressure gauge to check, 66
Wastage, equipment leaks causing feed, 63
Water softeners require attention, 328
Watering system, good, saves energy, 197

Management

California farm labor law, 54
Energy saving tips for poultrymen, 326
Managerial training, on-going, necessary, 74
More profit if 10 million fewer hens, 34
Net worth per hen of large and medium egg ranches, 282
Pesticides, employers' obligation, 520
Task force approach on production problems, 528
Vulnerable to unions, 481

Miscellaneous

American Egg Board, National Egg Board becomes, 348
organizes for action, 140
California's new minimum wage, 390
Cancer treatment uses Newcastle virus, 446
Carelessness basic cause of accidents, 299
Chickens too noisy? 327
Collecting egg handler under checkoff defined, 348
Delaney Clause effects, 138
Egg Clearinghouse, 348, 390
Egg income drops behind broilers, 185
EGGMAR begins operations, 348
Express your views, 395
Farm labor law nationally? 185
FTC, judge's egg decision, 4
ruling on egg advertising, 354, 390
Food industry study: election year fuel, 94
How much time for a service call? 217
How to hold a chicken, 72
Incubators copied fowl—almost, 283
Modern agriculture, let's tell public about, 544
National Broiler Marketing Ass'n taken to court, 140
National Commission on Egg Nutrition, appeals for dismissal, 94
FTC decision against, 4, 390
Supreme Court dismisses, appeal, 276
Oil equivalent in energy for food, 22
OSHA, rules for guarding farm machines, 167
to define agriculture, 140
Poultry gets nearly 5% of food budget, 432
Poultry science meeting reports, 365
Productivity endangered, 228
Silent consumerists, 354
Tax credit for hiring workers on welfare, 432
Tax reform law, how new, will affect you, 476
10 Commandments for egg profits in 1977, 476
UEP to finish Standard Brands fight, 348
USA Branch of WPSA seeks new members, 426
USDA for grower bargaining, 54
World's Poultry Congress two years away, 278

Poultry Health

AVMA poultry sessions, notes from, 372
Adenoviruses, and reoviruses in many birds, 470
isolated from healthy chickens, 303
severe respiratory signs from, in turkeys, 82
viral hepatitis in poults from, 338
Aflatoxicosis requires laboratory diagnosis, 303
Aflatoxin, can make coccidiosis more severe, 218
hemolytic anemia in broilers from, 342
linked with insect-damaged corn, 298
Airsacculitis, drug combination effective in, 264
Ammonia, broiler weight gains depressed by, 218
eliminated in brooder-grow cages, 66
increases broiler disease problems, 453
Antibiotic, FDA committee wants restricted, use, 476
FDA to ban, 348
injection for day-old poults, 158
supplementation for broilers, 366
Antibody, exposure to cold steps up, levels, 128
insecticide effect on, production, 176
Arizona infection, egg dipping may protect against, 130
Aspergillosis, prevention is approach in, 123
Avian influenza, and fowl plague, 207
first in U. S. chickens since 1929, 342
free flying birds as, virus shedders, 72
Bacterial infections, fewer drugs for treating, 241
Beak necrosis, pelleted feed may help prevent, 294
Birds, more peripheral, than realized, 446
reoviruses widespread in many, 470
Birth control pills to reduce sparrows, 174
Blood sampling technique cuts costs, new, 356
Blue Comb, can appear in different forms, 70
vaccination limitations, 220
Botulism, blow fly larvae most potent spreaders of, 176
Bronchitis, broad spectrum, vaccines needed, 220
Holland strains of, vaccine protection broad, 387
new strains identified in Maine, 220
virus is unstable, 372
Cage layer fatigue, 23, 32
Capillaria worms, thickened digestive tract in, 259
Chick losses, unsterile syringes can cause, 412
Clostridia, coccidiosis increases intestinal, 424
research needed on, infections, 264
Coccidiosis, and intestinal clostridia, 424
interference with methionine absorption, 449
monensin effective for, in turkeys, 338
most costly of poultry diseases, 442
vaccination studies, 386
Coccidiostats, continue, briefly after caging, 371
feed route preferred for, 22
oocyst counts not reliable judge of, 84
Coffee weed seeds hurt broiler conversions, 302
Corn standards changes, a poultry health threat, 440
Coryza, an effective, bacterin, 366
requires depopulation, 98
Crooked toes from all-night lights, 98
Crotolaria seeds toxic to broilers, 142
Cull chicks, virus could cause more, 324
Debeaking-vaccinating, clean, units regularly, 206
problems in automated day-old, 111
Dehydration, prevent, in newly-housed pullets, 125
Dermatitis, foot-pad, in broilers, 39, 365
from Candida in Israeli layers, 302
in poults from borderline nutrition, 410
yeast-like mold in, condemnations, 424
Disease prevention, how passive immunity affects, 217
Disease surveillance, results of, 376
Drugs, don't spill, around poultry, 77
head withdrawal times for, 852
Egg sanitation, turkey, procedures compared, 428
Electrolyte therapy in stress and disease, 296
Enteritis, hemorrhagic, in turkeys, 414
necrotic, in broilers, 376
vaccine for turkey, 220, 376
Epidemic tremor, time vaccination for, 219
E. coli infection requires predisposing factors, 220
Fatty liver syndrome, biotin can prevent, 387
does hard water influence, 80
premix for treatment of, 77
restricting energy intake still best in, 84
"Flip-over" syndrome still a mystery, 380
Follicle infection in cages, broiler, 39
Foot-pad lesions in broilers, 39, 365
Fowl cholera, how one state cut, losses, 253
furazolidone does not affect vaccine response, 520
immunity higher if, vaccine is injected, 176
how to be sure it's, in caged layers, 460
vaccine for chickens shows promise, 300
vaccine dose higher for chickens, 502
vaccine gives systemic protection, 397
Fowl plague and Avian flu . . . new threats? 207
non-, virus infection, 372
Fowl pox, observations, 374
mosquitoes primary means of spreading, 528
stress may activate latent, 42
Gizzard erosion, 344, 366, 386
Gumboro, -like lesions from protozoan organism, 320
parental antibody test, 424
vaccination not a panacea, 32
See also "Infectious Bursal Agent"
Hysteria, tape of cackling hens controls, 422
Infectious bursal agent, and MD vaccination, 366
early, infection and vaccine response, 158
exposing anemic chicks to, 376
parental immunity in, 376
Immunity, is more than skin deep, 322
passive, in disease prevention, 217
Laryngotracheitis, could be eradicated, 472
more ventilation needed in, breaks, 372
shipping pullets after, vaccination, 202
vaccination routes, 483
viruses—pathogenicity and control, 163
Leg edema in turkeys due to loading and hauling, 70
Leg problems, broiler, from continuous lighting, 386
Leg weakness in turkeys, new insight into, 288
Leukosis, and Marek's research pays off, 472
get rid of virus shedders to eradicate, 520
IBA reduces incidence of lymphoid, 182
identifying carriers of lymphoid, 374
-like turkey disease in England, 82
program for possible, eradication, 166
Lice, fungus may help control poultry, 150
Litter fumigation may not kill salmonella, 264
Liver abscesses causing some turkey condemnations, 338
Loss from poultry disease, $600 million annual, 450
Marek's disease, and leukosis research pays off, 472
active HVT infection needed to protect from, 520
cell-free and cell-associated, vaccine, 342
exposure effects on unvaccinated birds, 302
IBA and, vaccination, 366
reovirus contamination of, vaccine, 84
resistance from specific antigens, 42
spray vaccination, 32, 374
vaccine inactivated by heat, 126
virus pathogenicity, 374
Mites, new spraying technique for fowl, 206
Mold, feed odor and color changes from, 63
yeast-like, in dermatitis condemnations, 424
Molybdenum, scabby hip responds to, 39
Mortality, check breeder flock in early chick, 242
Muscle myopathy in broiler breeders, 82
Mycoplasma-free turkey flocks, establishing, 151
Mycoplasma gallisepticum, diagnosis of, 432
immunization, 219, 282, 372
managing the, infected flock, 408
Mycoplasma meleagridis, egg injection for, 376
three-stage eradication program, 503
Mycoplasma synoviae, chlortetracycline effective against, 341
control, of air sac condemnations, 126
not egg transmitted, 376
serology reliable aid in diagnosing, 387
tests for breeder flock, status, 264
Mycoplasmosis, new test for detecting, 480
Mycotoxins may interact with other factors, 42
carriers hard to detect, 374
Newcastle disease, back-passaged, vaccines, 356
HI titers and duration of immunity to, 264
imported psittacines still a threat in, 74
Nutrition in turkey disease problems, 40
Origin of disease, know nature and, 459
Ornithosis found despite antibiotic use, 36
Paralytic turkey disease in Israel, 304
Penicillum Citrinum may depress growth, 174
Pickouts, what to do about prolapse and, 297
Preventive health program for turkey breeders, 27
Prolapse, what to do about, 297
Protozoan organism, Gumboro-like lesions from, 320
Proventriculus enlarged from lack of fiber, 424
Reovirus-contaminated HVT vaccine effects, 84
Reoviruses, widespread in many birds, 470
Residue, regional, detection program tested, 476
Respiratory disease affects voice of turkeys, 70
Respiratory diseases may start on day one, 232
Salmonella-Arizona control needs total effort, 37

Salmonella, fumigation of litter may not kill, 264
fumigate hatching eggs in, control, 502
litter culture in detecting, 520
monitoring for, in turkeys, 54
the, problem, 417
Salt may help stop picking, 241
Scabby hip responds to molybdenum, 39
Squamous cell carcinoma in broilers, 172
Staphyloccus infections, 287
Sulfaquinaxaline residues, urges different assay for, 34
Stress can harm flock performance, 488
Stress may activate latent fowl pox, 42
Tetracyclines, Food and Drug to ban, 348
Tick, poultry, causes paralysis and depression, 426
Vaccination, automated day-old, and debeaking, 111, 206
disagrees on proportioners for, 96
don't ship pullets too soon after LT, 202
particle size control in spray, 465
repeat, after force molting, 24
routine broiler breeder, urged, 246
serological profile helps time, 169
water, techniques, 10
Vaccine, be sure you are using correct, 256
cell-free and cell-associated MD, 342
modest proposal to, manufacturers, 96
potency, skim milk to maintain, 84
what, and serum titer mean, 411, 466
Ventilation in poultry health, 451
Viral arthritis, and staph in broilers and pullets, 287
can be crippling and costly, 470
detecting, 376
egg transmission of, demonstrated, 126
update, 455
vaccination, 372
Viral disease, new, of poults, in South Dakota, 504
Viral hepatitis in poults an adenovirus, 338
Virus infection, nonfowl plague, 372
Virus could cause more cull chicks, 324
Vitamin deficiencies in chickens, 142
Water medication, how to avoid pitfalls, 499

Turkey Production

Adenovirus, severe respiratory signs with, 82
All-time record crop of turkeys, 432
Antibiotic injection advised for poults, 158
Arizona infection, egg dipping for, 130
Behavior, turkey hen, no longer antisocial, 464
Biotin, growth response to, 523
Biotin and pyridoxine benefit poults, 306
Blue comb, can appear in different forms, 70
vaccination has its limitations, 220
Breeder hen,, factors influencing performance, 523
Breeder tom management, 168
effect of early nutrient restriction on, 523
Breeders, preventive health program for, 27
Breeder pens, introducing new birds in, 80
Broodies, separated, but kept in good condition, 214
Broody, behavior of hens about to become, 130
Cages, more eggs in, than from floor hens, 338
"Clean" poults, how to produce, 198
selection for breeding in, 509
Coccidiosis, monensin effective against, 388
Costs, feed conversion affects, 214
production, 276
Dermatitis, borderline nutrition can cause, 410
Drug residues, growers use vacuum cleaner to avoid, 410
Dust, less, in semi-confinement pens, 168
levels in turkey houses, 262
Egg dipping, for Arizona infection, 130
prevents dust buildup in incubator, 214
Egg sanitation procedures compared, 428
Eggshell thickness, calcium and, 414
E. coli requires predisposing factors, 270
Energy cut for rearing female breeders, 262
Enteritis, hemorrhagic, 414
vaccine for turkey, 220, 376
Fall-out doors prevent suffocation, 445
Feed and light restriction, 416
Feed conversion, affects costs,
bambermycins help, 130
Feed ingredients, routine sampling of, advised, 78
Goals, flock production, 153
Housing, environmentally modified, 416
Insemination, crews should watch semen volume, 168
fertility increased by multiple, 176
time of day for, 40, 79, 362
Insulating turkey pole barns, 26
Light, and feed restriction of toms, 416
in abnormal eggs, 465
intensity in rearing toms, 262, 428
intermittent, 104, 300
Lighting, accidental pre-, of hens, 388
breeder turkey, practices, 216
Leg edema due to loading and hauling, 70
Leg weakness, new insight into, 288
Leukosis-like disease in England, new, 82
Litter, recycling of, safe for brooding, 464
rolled paper as, 124
shredded newspapers as, 27
Liver abscesses causing some condemnations, 338
Loading of turkeys, mechanical, 332
Lysine needs 12 to 22 weeks, 520
Methionine, needs of developing turkeys, 523
M. meleagridis, threestage eradication program, 503
Methionine plus cystine requirements, 414
Milo, turkeys may back off from bird-resistant, 254
Mold inhibitors, effect of, on corn, 416
Mycoplasma-free breeder flock, establishing, 151
Nutrient density, higher, for toms, 414
Nutrient restriction, effects of pre-breeder, 266
Nutrition in turkey diseases, 40
Paralytic turkey disease in Israel, 304
Planning, turkey industry needs better prior, 438
Poultry Science turkey research, 414
Protein savings in feeding breeders, 368
Pyridoxine and biotin benefit poults, 306
Residues, how, occur in turkey feeds, 216, 523
Respiratory disease, acute, affects voice, 70
Salmonella-Arizona control needs total effort, 37
Sand cuts feed per pound of gain, 169
Selenium-vitamin E lack, preventing, 464
Semen tests, culling toms on early, 523
Sperm, effect of temperature shock on, 414
Starveouts, high protein at start reduces, 464
start sooner to prevent, 400
Strain and lighting in abnormal eggs, 465
Turkey Federation rejects checkoff, 54
Turkey industry too optimistic, 276
Viral disease, new, in South Dakota, 504
Viral hepatitis in poults, 338
Vitamin deficiencies in turkeys, 142
Vitamin E deficiency, effect of, 131
Vitamin E-selenium lack, preventing, 464
Weight loss in shipment, how to reduce, 368
Weight response of young turkeys to fishmeal, 131

Mosquitoes primary means of spreading fowl pox

Fowl pox, a virus disease, is worldwide in occurrence, and nearly all species of fowl are susceptible. Mosquitoes are the primary source of spreading the disease. Experimentally, other blood sucking or biting insects have proved to be potential carriers of the disease.

Pox is most frequently observed as "dry pox." The lesions are scabs and are usually obvious. In severe cases, scabs may be present on all unfeathered parts of the body. Most commonly, the scabs are observed on the head comb, wattles and around the eyes. Mortality from "dry pox" is usually low, but performance can be severely depressed.

"Wet pox" affects the mouth and throat of the bird, and the most commonly observed clinical sign is the formation of cheesy plaques (diphteretic membranes) in the mouth and throat. In severe cases of wet pox, the mortality may be quite high—the birds literally choke to death.

Pox infected birds will usually recover in three to four weeks. However, the disease is slow to spread, and infected birds may be observed in a flock for six to eight weeks. There is no satisfactory treatment for fowl pox.

Prevention—Vaccines for fowl pox are very effective and should be routinely used in all areas where pox is known to occur.

Three types of vaccine are available—pigeon pox, modified fowl pox and fowl pox. The modified fowl pox or fowl pox are the ones usually recommended for domestic poultry.

Turkeys do not respond to vaccination as well as chickens, and the immunity is of shorter duration. Turkey breeders should be revaccinated.

The vaccine manufacturer's directions should be followed to obtain optimum results.

A mosquito control program around poultry houses should be a routine management procedure. Eliminate all nearby breeding areas. Mow weeds and eliminate other areas of shelter around poultry houses.—*Stan Vezey, D.V.M., University of Georgia, in Georgia Poultry Tips.*

* * * *

EGG SHELLS USED AS ABRASIVE —Taking a far-out step in the conservation of waste materials, the British have come up with a way to make egg shells into an abrasive powder that cleans soft stone, aluminum, steel and wrought iron. So far, nearly 7,000 tons of egg shells that used to go into garbage have been converted into a cleaning agent.—*Poultry and Egg Institute of America Hot Line, July 9, 1975.*